

REMARKS

Reconsideration of the application is requested. Applicants have cancelled Claims 22-42 and add new Claims 43-55. New Claims 43-55 encompass an invention that is not narrower than the invention covered by cancelled Claims 29-40.

Rejections Under 35 USC 112

1. The Office Action rejected Claims 22-28, 41 and 42 under 35 USC 112, second paragraph, on the grounds that the claims contained numerous terms, which allegedly rendered them indefinite. In view of the remarks above, the rejection is believed moot.

2. The Office Action rejected Claim 34 under 35 USC 112, second paragraph, and alleged that the compounds of structure (V) and structure (VI) were indefinite. In view of the modifications above, the rejection is believed overcome. Claim 34 was cancelled. Further, new Claim 49, which contains subject matter of cancelled Claim 34, does not have formula (V). Reconsideration is requested.

With respect to structure (VI) the Examiner indicated that structure (VI) was indefinite because the specification allegedly did not make clear what, if any, negatively charged counter ions were intended. 35 USC 112, second paragraph, essentially requires precision and definiteness of claim language. *In re Borkowski*, 164 USPQ 642 (CCPA 1970). Definiteness of claim language must be analyzed, not in a vacuum, but in light of (i) the context of the particular application disclosure, (ii) the teachings of the prior art, and (iii) the claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made. See (MPEP 2173.02, *In re Wiggins*, 179 USPQ 421 (CCPA 1973)). If the scope of the subject matter embraced by the claim is clear, and if applicant has not otherwise indicated that he intends that claim to be a different scope, then the claim does particularly point out and distinctly claim the subject matter which the applicant regards as his invention. *In re Borkowski* at 645-646. A

broad claim, no matter how broad, is not indefinite for purposes of section 112, second paragraph, as long as the boundaries of the claim are capable of being understood. Stated differently, breadth alone is not indefiniteness. See *In re Gardner*, 166 USPQ 138 (CCPA 1970).

New Claim 49, when read in light of the specification, would be understood by one of ordinary skill in the art. Applicants' invention encompasses a cationic ruthenium complex. The complex itself has a positive charge. To obtain electric neutrality the cation is coordinated with a counter anion having a negative charge, preferably with compounds such as tetrafluoroborate or hexafluorophosphate because their coordinative binding to the ruthenium cation is not so strong. In other words, one of ordinary skill in the art would understand Claim 49. Reconsideration is requested.

3. The Office Action rejected Claim 35 under 35 USC 112, second paragraph, on the grounds that the limitation "catalyst precursors" lacked antecedent basis. In view of the modifications above, the rejection is believed overcome. Reconsideration is requested.

4. The Office Action rejected Claim 37 under 35 USC 112, second paragraph, on the grounds that there was no antecedent basis for the limitations "R³ to R⁵." In view of the modifications above, the rejection is believed unwarranted. Reconsideration is requested.

5. The Office Action rejected Claim 22-42 under 35 USC 112, first paragraph, on the grounds that these claims allegedly failed to teach the utility for the inventions encompassed by these claims. The rejection should be withdrawn in view of the remarks below, which refer to new Claims 43-55. To the extent that the rejection can be understood, Applicants respond as follows.

The Office Action alleged that "the how to use requirement for a process claim requires that the process produce compounds of some economic importance." This is wrong. 35 USC 112, first paragraph, does not require any such "economic importance" requirement. In fact, in support for the rejection under 35 USC 112, first paragraph, the USPTO offers case law that addresses an issue under 35 USC 101, not 35 USC 112, first paragraph. The rejection is unwarranted, improper, completely at odds with well established legal principles, and must be withdrawn. If the USPTO intended to issue a rejection under 35 USC 101, then it is required to issue a proper rejection.

Under 35 USC 112 first paragraph, the specification as originally filed must convey clearly to those skilled in the art the information that the applicant has invented the specific subject matter later claimed. *In re Wright*, 9 USPQ2d 1649 (Fed. Cir. 1989). When the original specification accomplishes that, regardless of how it accomplishes it, the essential goal of the description requirement is realized. (*In re Wright* at 1651). In deciding the issue, the specification as a whole must be considered. *In re Wright* at 1651. The claimed subject matter need not be described "in haec verba" in the specification in order for that specification to satisfy the description requirement. *In re Wright* at 1651 Applicants' specification meets the requirements of 35 USC 112, first paragraph. Reconsideration is requested.

6. The Office Action rejected Claims 22-32 and 34-42 under 35 USC 112, first paragraph, on the grounds that these claims were not enabled in the specification. The rejection should be withdrawn in view of the modifications above and the remarks below, which are directed to new Claims 43-55. 35 USC 112, first paragraph, reads as:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Applicants' specification contains a written description of their invention. Applicants' specification contains a written description of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use their invention. Applicants' specification, for instance, includes examples that show how some of the compounds encompassed by Applicants' invention are made (See Specification, pages 12-20). The specification describes suitable starting materials (See Specification, pages 4-7). The specification describes suitable catalysts (See Specification, pages 7-9). The specification describes

suitable ionic liquids (See Specification, pages 9-10). In other words, the specification provides the sufficient information to have placed Applicants' invention in the public and to enable one of ordinary skill in the art to make and use Applicants' invention. Applicants' are not required to provide working examples for every example for every embodiment of their invention.

With respect to any embodiments that are not supported by working examples, Applicants' submit that one of ordinary skill in the art familiar with the claims and the specification would be able to practice all of the embodiments encompassed by Applicants' invention without undue experimentation. It is basic patent law that determining that "undue experimentation" would be needed to make and use the claimed invention is not a single, simple factual determination. Rather, it is a conclusion reached by considering all of the eight factors: (i) the breadth of the claims, (ii) the nature of the invention, (iii) the state of the prior art, (iv) the level of ordinary skill, (v) the level of predictability, (vi) the amount of direction provided by the inventor, (vii) the existence of working examples, and (viii) the quantity of experimentation needed to make or use the invention based on the content of the disclosure. *In re Wand*, 8 USPQ2d 1400, 1404 (CAFC, 1988) (See MPEP 2164.01(a)). The Office Action's comments fail to explain why Applicants' invention would not be obtainable without undue experimentation. The rejection is unwarranted and should be withdrawn. Reconsideration is requested.

The Office Action alleged that there were three "grounds" for doubting operability of Applicants invention. The first "ground" for doubting operability was that the ring-closing metathesis reaction, gathered from Armstrong (J. Chem. Soc. Perkins I) "appears to be capricious with regard to substrate structure and subjected to unexpected failures." In support for this rejection, the Office Action cited *In re Marzocchi and Horton*, 169 USPQ 367 (CCPA 1971), a case in which the U.S. Court of Customs and Patent Appeals reversed the examiner's rejection under 35 USC 112, first paragraph. The Office Action once again misapplies case law. *In re*

Marzocchi and Horton indicates at pages 369-370 that in the field of chemistry, there may be times when the well-known unpredictability of chemical reactions will alone be enough to create a reasonable doubt as to the accuracy of a particularly broad statement put forth as enabling support for a claim. The case expressly states that it is "incumbent upon the Patent Office, whenever a rejection on this basis is made, to explain *why* it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement." (emphasis added). (See also *In re Budnick*, 190 USPQ 422 (CCPA 1976)). The Office Action's general statements about Armstrong does identify any statement in the specification that is being contested. The Office Action's general statements about Armstrong do not offer any acceptable evidence or reasoning which is inconsistent with any contested statement. The rejection is speculative and unsupportable. Reconsideration is requested.

The second "ground" for doubting operability of Applicants' invention, directed to cancelled Claims 22-28, 41 and 42, also fails to provide any acceptable evidence or reasoning which is inconsistent with any contested statement. Further, in view of the modifications above, Applicants' invention is directed to an invention that is not narrower than the invention encompassed by cancelled Claims 29-40.

The third "ground" for doubting operability of Applicants' invention was an entirely new rejection under 35 USC 112, first paragraph, of Claims 29-40. Applicants fail to understand how this new rejection provides any acceptable evidence or reasoning which is inconsistent with any contested statement. Applicants will address this rejection below as a separate rejection.

7. The Office Action rejected Claims 29-40 under 35 USC 112, first paragraph, alleging that while the specification is enabling for the dienes having the formula (I) with R = hydrogen and R¹ = carboxymethyl, the specification is not enabling for other choices of R and R¹.

The rejection should be withdrawn. Applicants' invention relates to a process for making a cyclic compound by subjecting a starting material in the presence of a

catalyst component to metathesis reaction in the presence of an ionic liquid, as claimed above. The presently claimed ring-molecules can have from 5 to about 20 carbon atoms or hetero atoms such as nitrogen. Examples for such cyclic compounds are given in the section "Examples." The most typical ring-molecules are carbon-cycles, partly unsaturated, e.g., cyclohexene or heterocycles such as dihydropyrrole-derivates. Also, mono unsaturated amides are possible being used as compounds useful for aromatic fragrances and having a ring size of 12 to 14 atoms.

Applicants' invention is based on the surprising discovery that the presence of ionic liquids in the metathesis reaction of starting materials that contain at least two functional groups in the form of substituted or unsubstituted alkene or alkyne units leads to an increase in the operating life of the catalyst since it can be used in the ionic liquid for further metathesis reactions (Specification page 3, third full paragraph). To practice the invention with an ionic solvent is not a standard activity such that Applicants' invention provides a surprising and valuable contribution to the art. Even when ionic solvents are liquids it cannot be foreseen that the molecules of the solvent reacts with the catalyst or reactants. In course of Applicants' invention, it was surprising that the strong cationic ruthenium complex does not react with the solvent. Applicants' compounds have important industrial applications. Example 2, for instance, shows a process that makes compounds that form as a basis for an agrochemical or aminosugar.

As discussed above, Applicants' specification includes examples that show how some of the compounds encompassed by Applicants' invention are made. The specification describes suitable starting materials, suitable catalysts, and suitable ionic liquids.

Rejections Under 35 USC 103

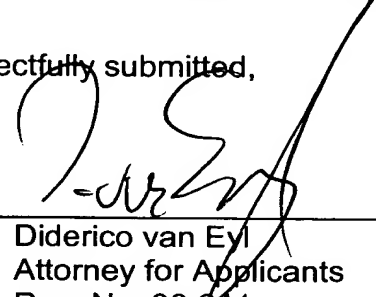
1. The Office Action rejected Claims 22-28, 41 and 42 as being unpatentable over Campagne (Tet. Lett.). In view of the modifications and remarks above, the rejection is unwarranted.

2. The Office Action rejected Claims 22-28, 41 and 42 as being unpatentable over Campagne (Tet. Lett.) in view of Olivier et al. *Nonaqueous Room-Temperature Ionic Liquids: A New Class of Solvents for Catalytic Organic Reactions* Chem Ind. 68 (1996) 249-263 (Olivier). In view of the modifications and remarks above, the rejection is believed moot.

In view of the remarks above, a Notice of Allowance is earnestly requested.

Respectfully submitted,

By



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VERSION WITH MARKINGS TO SHOW CHANGES MADE:

As explicitly set forth in **37 C.F.R. Section 1.21(c)(1)(ii)**, **last sentence**, a marked up version does not have to be supplied for an added claim or a cancelled claim as it is sufficient to state that a particular claim has been added, or cancelled, and this has been so stated in the Amendment.

In particular, in this case, Claims 22-42 have been cancelled, and Claims 43-55 have been newly added.